

DATA ITEM DESCRIPTION		FORM APPROVAL OMB NO 0704-0188	
1. TITLE Personnel/Work Standards		2. IDENTIFICATION NUMBER OT-025	
3. DESCRIPTION / PURPOSE To describe the personnel qualifications and work requirements for Ordnance and Explosives (OE) projects.			
4. APPROVAL DATE (YYMMDD) 990825	5. OFFICE OF PRIMARY RESPONSIBILITY CEHNC-OE-CX	6a. DTIC APPLICABLE	6b. GIDEP APPLICABLE
7. APPLICATION / INTERRELATIONSHIP Use for resume submittal documenting the required education and experience of selected personnel listed below.			
8. APPROVAL LIMITATION	9a. APPLICABLE FORMS	9b. AMSC NUMBER	
10. PREPARATION INSTRUCTIONS: 10.1 Qualifications of proposed key personnel and of personnel filling core labor categories (see par. 10.3, 10.4) shall meet the requirements listed below and shall be submitted in resume form. The resumes shall document all required educational and experience requirements. Resumes for Unexploded Ordnance (UXO) personnel shall be accompanied by the Explosive Ordnance Disposal (EOD) school course graduation certificate. Resumes need not be submitted for personnel listed on the USAESCH Database for UXO Personnel; contractors need only submit name, proposed position, and UXO number. The contractor shall certify in writing to the Contracting Officer that UXO personnel scheduled to fill the positions of Senior UXO Supervisor, UXO Safety Officer, and UXO Quality Control Specialist are fully qualified to fill those positions. The other labor categories are provided for the contractor's encouraged use and guidance. 10.2 Unexploded Ordnance (UXO) Personnel, General. UXO personnel, assigned to positions UXO Technician I, UXO Technician II, UXO Technician III, UXO Safety Officer, UXO Quality Control Specialist, and Senior UXO Supervisor, shall be U.S. citizens and graduates of one of the following schools or courses: a. US Army Bomb Disposal School, Aberdeen Proving Ground, MD; b. US Naval Explosive Ordnance Disposal (EOD) School, Indian Head, MD; c. EOD Assistants Course, Redstone Arsenal, AL; EOD Assistants Course, Eglin Air Force Base, FL; or, a DoD Certified equivalent course. 10.2.1 EOD experience in National Guard or Reserve Units will be based on the actual documented time spent on active duty, not on the total time of service. 10.3 Key Personnel. When required for the work effort, the following personnel will be designated as key personnel and shall meet the minimum qualifications listed for each labor category. 10.3.1 Geographical Information System (GIS) Manager. This individual shall have a minimum of 3 years of direct experience managing computerized GIS within a Microstation GIS Environment. Operation and management of site specific GIS, based on CEHNC hardware and software standards described in DID OT-005-07, may be a major element of this project. 10.3.2 Geophysicist. This individual shall have a degree in geology, geological engineering, or a closely related field, and shall have a minimum of 5 years of directly related geophysical experience. Geophysical investigations to locate buried ordnance may be a major element of each work effort. The geophysical investigations shall be managed by a qualified geophysicist. 10.3.3 Project Manager. This individual shall have at least 3 years experience in general contract project management on programs similar in size and complexity to the effort described in the SOW. Exceptions shall be submitted to the Contracting Officer for approval.			
11. DISTRIBUTION STATEMENT			

10.3.4 Senior UXO Supervisor (SUXOS). This individual shall be a graduate of a school listed in paragraph 10.2.a or 10.2.b. This individual shall have at least 15 years UXO experience, which may be a combination of active duty military EOD and contractor UXO experience, and shall include 10 years in supervisory positions. A SUXOS must be able to fully perform all of the functions enumerated for UXO Sweep Personnel and UXO Technicians I, II, and III. In addition, the ability to perform the following functions is a requirement for the SUXOS: Planning, coordinating, and supervising all contractor on-site UXO activities; preparation of standard operating procedures (SOPs) for UXO operations ensuring compliance with DOD directives as well as local, state, and federal statutes and codes; and certification of Ammunition, Explosives, and Dangerous Articles (AEDA) and/or range scrap as ready for turn-in or disposal in accordance with current policies. The SUXOS must also be fully capable of supervising multiple project teams which may be performing UXO and UXO related activities; e.g., vegetation clearance; land surveying; reconnaissance and classification of UXO, pyrotechnic items, and military explosives and demolition materials; locating surface and subsurface UXO; destroying UXO and OE by burning or detonation; and/or transporting and storing UXO and explosives material.

10.3.5 UXO Safety Officer (UXOSO). This individual shall have the same minimum qualifications as a UXO Technician III as listed in paragraph 10.4.2. In addition, this individual shall have the specific training, knowledge, and experience necessary to implement the SSHP and verify compliance with applicable safety and health requirements. This individual must be able to perform all functions enumerated for UXO Sweep Personnel and UXO Technicians I, II, and III. In addition, the UXOSO must have the ability to implement the approved UXO and explosives safety program in compliance with all DOD, federal, state, and local statutes and codes; analyze UXO and explosives operational risks, hazards, and safety requirements; establish and ensure compliance with all site specific safety requirements for UXO and explosives operations; enforce personnel limits and safety exclusion zones for UXO clearance operations, UXO and explosives transportation, storage, and destruction; conduct safety inspections to ensure compliance with UXO and explosives safety codes; and operate and maintain air monitoring equipment required at site for airborne contaminants.

10.3.6 UXO Quality Control Specialist (UXOQCS). This individual shall have the same minimum qualifications as a UXO Technician III as listed in paragraph 10.4.2. In addition, this individual shall have documented Quality Control Training. This individual must be able to fully perform all functions enumerated for UXO Sweep Personnel and UXO Technicians I, II, and III. This individual must have the specific training, knowledge, and experience necessary to fully implement the contractor's QC plans. In addition, the UXOQCS must have the ability to implement the UXO specific sections of the Quality Control Program for all OE related evolutions; conduct quality control inspections of all UXO and explosives operations for compliance with established procedures; and direct and approve all corrective actions to ensure all OE related work complies with contractual requirements.

10.4 Core Labor Categories. The following labor categories may be required for each work effort, as described in each specific Task Order.

10.4.1 Civil Engineer. This individual shall have, as a minimum, a bachelor's degree in Civil Engineering or Civil Engineering Technology and 3 years of field or office experience. Preferably this individual should have a minimum of 3 years experience in OE or OE related activities. This could include surveying, mapping, aerial triangulation, global positioning system, geographical information systems development, or project management.

10.4.2 UXO Technician III. This individual, who supervises a project team, shall be a graduate of a school listed in paragraph 10.2.a. or 10.2.b. This individual shall have experience in OE clearance operations and supervising personnel, and shall have at least ten years combined active duty military EOD and contractor UXO experience. This individual must be able to fully perform all functions enumerated for UXO Sweep Personnel, UXO Technicians I and II. In addition, the ability to perform the following functions is a requirement for the UXO Technician III: Supervising and performing on-site disposal of Ordnance and Explosives; preparing explosives storage plans in accordance with all applicable guidance; preparing required OE administrative reports; preparing SOPs for on-site OE operations; performing risk hazard analyses; conducting daily site safety briefings; and supervising the conduct of all on-site evolutions directly related to OE operations.

10.4.3 UXO Technician II. This individual shall be a graduate of a school listed in paragraph 10.2.a. or 10.2.b. As an exception, a UXO Technician II may be an UXO Technician I with at least five years combined military EOD and contractor UXO experience. This individual must be able to fully perform all functions enumerated for UXO Sweep Personnel and UXO Technician I. In addition, the ability to perform the following functions is a requirement of the UXO Technician II: Properly storing OE material in accordance with applicable guidance; identifying fuzes and determining fuze condition; determining a magnetic azimuth using current navigational/locating equipment; performing field expedient identification procedures to identify explosives

contaminated soil; preparing an on-site holding area for OE material; and operating modes of transportation for transporting OE material, when appropriate.

10.4.4 UXO Technician I. This individual shall be a graduate of a course listed in paragraph 10.2.c. A UXO Technician I can advance to the UXO Technician II category after five years combined active duty military EOD and contractor UXO experience. This individual assists fully qualified personnel (UXO Technician II and above) in the following functions: Conducting reconnaissance and classification of UXO and other OE materials; identifying all munitions including bombs and bomb fuzes, guided missiles, projectiles and projectiles fuzes, rockets and rocket fuzes, land mines and associated components, pyrotechnics items, military explosives and demolition materials, grenades and grenade fuzes, and submunitions; locating subsurface UXO using military and civilian magnetometers and related equipment; performing excavation procedures on subsurface UXO; locating surface UXO by visual means; transporting UXO and demolition materials; preparing firing systems, both electric and non-electric, for destruction operations; operating Personnel Decontamination Stations (PDS); inspecting salvaged OE related material and erection of UXO related protective works; and donning and doffing personnel protective equipment.

10.5 Other Labor Categories. The following labor categories may typically be required to perform each work effort:

10.5.1 Biologist. This individual shall be able to apply a knowledge of principles and theories of biology and related sciences in the collection, measurement, analysis, evaluation, and interpretation of biologic information concerning the structure, composition, and history of plants and animals. This includes the performance of basic research to establish fundamental principles to identify and protect special-status species and habitats.

10.5.2 Certified Industrial Hygienist. This person shall meet the Office of Personnel Management Standards for the Industrial Hygiene Series GS-690 and is certified by the American Board of Industrial Hygiene with at least 2 years hazardous waste site operations experience. Board certification or eligibility shall be documented by written confirmation by the American Board of Industrial Hygiene (ABIH). Military personnel must be identified as being a qualified Industrial Hygienist by the Surgeon General and be certified by the American Board of Industrial Hygiene.

10.5.3 Chemist. Performs a full range of experiments and analyses and any of the duties associated with a lab technician while also holding at least a bachelor's degree in chemistry.

10.5.4 Drafter 1. Performs drafting work using a computer, requiring knowledge and skills in drafting methods, procedures, and techniques. Prepares drawings of structures, facilities, land profiles, water stems, mechanical and electrical equipment, pipelines, duct system, and similar equipment, systems, and assemblies. Drawings are used to communicate engineering ideas, design, and information. Uses recognized systems of symbols, legends, shadings, and lines having specific meanings in drawings.

10.5.5 Emergency Medical Technician. Provides emergency medical treatment to sick or injured persons at site of emergency and while in transit to medical facility, working as a member of an emergency medical team. Determines nature and extent of illness or injury, or magnitude of catastrophe, and establishes procedures to be followed or need for additional assistance, basing decisions on statements of persons involved, examination of victim or victims, and knowledge of emergency medical practice. Administers prescribed medical emergency treatment at site of emergency, or in vehicle en route to medical facility, performing such activities as applying splints, administering oxygen, maintaining an adequate airway, treating minor wounds or abrasions, or performing cardiopulmonary resuscitation. Communicates with professional medical personnel at emergency treatment facility to obtain instructions regarding further treatment and to arrange for reception of victims at treatment facility.

10.5.6 Environmental Engineer. This individual shall have, as a minimum, a bachelor's degree in chemical engineering, civil engineering or environmental engineering.

10.5.7 Field Office (Administrative). This individual shall have the same qualifications as a clerk/typist but must be capable of operating the office in the absence of the UXO Supervisor. This person must be able to understand and answer questions relating to project status as obtained from status reports. This individual must also be capable of keeping track of field office personnel and appropriate time sheets.

10.5.8 Geologist. This individual shall be able to apply a knowledge of principles and theories of geology and related sciences in the collection, measurement, analysis, evaluation, and interpretation of geologic information concerning the structure, composition, and history of the earth. This includes the performance of basic research to establish fundamental principles and hypotheses and develop a fuller knowledge and understanding of geology and the application of these principles and knowledge to a variety of scientific, engineering, and economic problems.

10.5.9 Heavy Equipment Operator. Operates heavy equipment such as cranes, clamshells, power shovels, motor graders, heavy loaders, carryalls, bulldozers, rollers, scrapers, and tractors. Equipment is used to excavate, load or move dirt, gravel or other materials. Operator may be required to read and interpret grade and slope stakes and simple plans. May be required to grease, adjust and make emergency repairs to equipment.

10.5.10 Industrial Hygienist. This individual shall meet the Office of Personnel Management Standard for the Industrial Hygiene Series GS-690, with three years experience in HTRW work; personnel certified by the American Board of Industrial Hygiene with one year experience in HTRW work; and military personnel identified as being a qualified Industrial Hygienist by the Surgeon General having three years experience in HTRW work. In addition, it is expected that these personnel, by virtue of their education, special studies and training, have acquired competence in the practice of Industrial Hygiene.

10.5.11 Lab Technician. Performs laboratory tests according to prescribed standards to determine chemical and physical characteristics or composition of solid, liquid, or gaseous materials and substances. Sets up and adjusts laboratory apparatus and operates grinders, agitators, centrifuges, ovens, condensers, and vibrating screens to prepare material for testing according to established laboratory procedure. Test materials for presence and content of elements or substances, such as HTRW. Examines materials using microscope. Records test results on standard forms, writes test reports describing procedures used, and prepares graphs and charts. Cleans and sterilized laboratory apparatus. May prepare chemical solutions according to standard formulae.

10.5.12 Laborer. Performs tasks, which primarily require physical abilities and effort involving little or no specialized skill or prior work experience. The following tasks are typical of this occupation: Loads and unloads trucks and other conveyances; moves supplies and materials to proper location by wheelbarrows or hand trucks; stacks materials for storage or binning; collects refuse and salvageable materials; digs, fills, and tamps earth excavations; levels ground using pick, shovel, tamper, and rake; shovels concrete and snow; cleans culverts and ditches; cuts tree and brush; operates power lawnmowers; moves and arranges heavy pieces of office and household furniture, equipment, and appliances; moves heavy pieces of automotive, medical engineering, and other types of machinery and equipment. Spreads sand and salt on icy roads and walkways; picks up leaves and trash.

10.5.13 Mechanic. Repairs, rebuilds, or overhauls major assemblies of internal combustion automobiles, buses, trucks, or tractors. Diagnoses the source of trouble and determines the extent of repairs required; replaces worn or broken parts.

10.5.14 Safety Engineer. This individual shall meet the Office of Personnel Management Standards for a Safety Engineer Series GS-803 with three years experience in HTRW work; or be certified by the Board of Certified Safety Professionals with one-year experience in HTRW work. In addition, it is expected that these personnel, by virtue of their education, special studies and training, have acquired competence in the practice of safety and occupational health.

10.5.15 Security Guard. Protects property from theft or damage, or persons from hazards or interference. Duties involve serving at a fixed post, making rounds on foot or by motor vehicle, or escorting persons or property. May be deputized to make arrests. May be required to demonstrate (1) proficiency in the use of firearms and other special weapons and (2) continuing physical fitness.

10.5.16 Surveyor. This individual should have minimum of 5 years experience as a Survey Party Chief, performing the following functions Leading day-to-day work activities of survey party under the direction of a land surveyor; supervising a crew engaged in gathering data about the earth's surface, using a variety of surveying instruments; clearing land and setting stakes to identify certain points; checking final field notes for clarity and accuracy; and completing transmittal of forms.

10.5.17 Surveyor Aid. Performs any of following duties to assist in surveying land: Holds level or stadia rod at designated points to assist in determining distances and elevations and laying out stakes for map making, construction, mining, land, and other surveys. Calls out reading or writes station number and reading in notebook. Marks points of measurement with elevation, station number, or other identifying mark. Measures distance between survey points, using steel or cloth tape or surveyor's chain. Marks measuring point with keel(marking crayon), paint sticks, scratches, tacks, or stakes. Places stakes at designated points

and drives them into ground at specified elevation, using hammer or hatchet. Cuts and clears brush and trees from line of survey, using brush hook, knife, ax, or other cutting tools.

10.5.18 Truck Driver. This individual shall have the appropriate Commercial Drivers License (CDL) depending on the vehicle type and transportation requirements. This individual drives a truck to transport materials, merchandise, equipment, or workers between various types of establishments such as manufacturing plants, freight depots, warehouses, wholesale and retail establishments or between retail establishments and customers' houses or places of business. May also load or unload truck with or without helpers, make minor mechanical repairs, and keep truck in good working order.

10.5.19 UXO Sweep Personnel. UXO Sweep personnel assist UXO technicians and supervisory personnel in the clearance of UXO, operating only under the direct supervision of qualified UXO technicians and/or UXO supervisors. This position requires site and job specific contractor training (which may include ordnance recognition, safety precautions, donning and doffing personnel protective equipment, etc.) but does not require UXO technician qualifications. UXO Sweep Personnel conduct visual and/or instrumented UXO search activities in the field; perform field maintenance on military and civilian magnetometers; operate ordnance detection instruments and other similar equipment to include digital geophysical mapping instruments; and remove OE scrap after such items have been certified/verified safe for handling by a qualified UXO technician. UXO sweep personnel are not involved in the execution of explosives operations.

10.6 Work Standards: The following are minimum work standards for Ordnance and Explosives projects. Prior approval of the Contracting Officer shall be obtained to relax these standards.

10.6.1 Work Week: UXO personnel involved in performing UXO field operations shall be limited to a 40 hour week, either four 10 hour days or five eight hour days. Two consecutive work weeks shall be separated by 48 hours of rest.

10.6.2 UXO Team Composition and Roles.

10.6.2.1 Conventional OE Investigations or Removal Actions.

10.6.2.1.1 Each UXO team shall consist of one UXO Technician III and six or less team members. Teams shall have a minimum of two UXO qualified personnel, one of which shall be the UXO Technician III. When the UXO operations are limited to surface removals using UXO Sweep Personnel identified in paragraph 10.5.19, personnel ratios shall NOT exceed six (6) UXO Sweep Personnel to one (1) UXO Technician II, or three (3) UXO Technicians II to one (1) UXO Technician III.

10.6.2.1.1.1 The minimum team separation distance for all teams is the greater of 200 feet or the K50 distance of the most probable munition (MPM) for the OE area.

10.6.2.1.2 The UXO Technician III shall supervise all UXO tasks and UXO teams. This individual may supervise other than UXO teams such as brush-clearing teams. When non-UXO teams are under the direct supervision of someone other than a UXO Technician III, the teams shall be accompanied by a UXO Technician II who will provide UXO avoidance support.

10.6.2.1.3 The Senior UXO Supervisor shall supervise no more than ten UXO Technicians III. There shall be no more than one Senior UXO supervisor on an OE project without prior approval of the Contracting Officer.

10.6.2.1.4 A full time UXOSO shall be on site for each OE project. This position may be dual-hatted with the UXOQCS when there are less than 15 personnel on site. The UXOSO shall not be involved in any OE removal or investigation tasks. The UXOSO shall be directly hired by and work for the prime contractor and shall report directly to the project manager or someone higher in the contractor's organization.

10.6.2.1.5 A UXO Quality Control Specialist may not be required full time on site. However, QC functions shall be performed for all field activities. The UXOQCS shall ensure high quality in the field without compromising safety. The UXOQCS shall not perform any removal or investigative tasks. The UXOQCS shall be directly hired by and work for the prime contractor and must report directly to the project manager or someone higher in the contractor's organization. When this position is dual hatted as the UXOSO the individual filling this position shall remain on site during the project.

10.6.2.1.6 The UXO Technician I shall be limited to the functions listed in paragraph 10.4.4 The UXO Technician I shall not determine if UXO are safe to move.

10.6.2.1.7 UXO Sweep Personnel shall not excavate anomalies nor handle UXO. They may only perform the functions listed in paragraph 10.5.19.

10.6.2.2 Chemical Warfare Materiel (CWM) Investigations and Removal Actions.

10.6.2.2.1 A full time UXOSO shall be present during all field operations on a CWM project site due to the complex hazards posed by CWM. UXO qualifications for the safety officer are not required for sites where CWM is in Chemical Agent Identification Set (CAIS) or shipping containers, or other non-munition type containers.

10.6.2.2.2 A full time UXOQCS shall be used for all CWM field operations. This requirement may be relaxed if a written request, citing actual site conditions, is submitted to the Contracting Officer for approval.